To: Crellin Scott[cscott@coalsource.com]; Nagel, Jon (jnagel@coalsource.com)[jnagel@coalsource.com]
Cc: Bill Walker[bwalker@sovcon.com]; Nygaard, Eric[eric.nygaard@epa.state.oh.us]
From: Goff, Bruce
Sent: Wed 2/6/2013 3:46:38 PM
Subject: AEC-Bennoc Refuse Area-NPDES
Iowa ws_fact[1].pdf
Spreadsheet for Sulfate and Chloride WQS - updated Aug 21 2012.xls
image001.gif

Crellin and Jon:

We were reviewing Dr. Walker's September 14, 2012 WQ Assessment Report for the Bennoc Refuse Disposal Area and noted that the formula for acute sulfate on page 13 was the wrong formula. I had pointed this out and explained the error in an 8/22 2012 email to you and that was copied to Dr. Walker. That email is below. Wanted to point this out to you again so the report can be updated. I took the liberty to copy Dr. Walker on this email.

Please hold off on a "final" update to the report since Eric may have some other comments as he works on the AEC NPDES renewal.

Sorry for the error and confusion.

Bruce

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8/22/12 EMAIL

Crellin and Jon:

I need to update you on something important.

Several weeks ago I had previously sent you a copy of our internal guidance on determining WQ based effluent limits for sulfate and chloride and TDS. I also sent you a spreadsheet I had developed using the formulas in this guidance.

In applying the formula using the downstream WQ data we had for chloride and hardness and projected effluent data, it became apparent that something was not right. The formula was showing very high sulfate WQ standards.

I did some checking and discovered the formula for sulfate I had sent you was only valid for chloride < 25 ppm. In the guidance and the spreadsheet we had failed to reference a second formula that applies if chloride is > 25 ppm.

This is discussed in:

http://www.iowadnr.gov/portals/idnr/uploads/water/standards/ws_review.pdf

http://www.iowadnr.gov/portals/idnr/uploads/water/standards/ws_fact.pdf

Sorry about this.

FYI.

We will be using OEPA these sampling results for background WQ for any modeling for Piney Creek since the creek has a background pollutant load from your existing discharges:

Hardness - 283 ppm

Chloride - 168 ppm

TDS - 1385 ppm

Sulfate - 554

But it looks like the WQ based effluent limits would be based on modeling for the unnamed tribs. and not Piney Creek.

Using the most stringent case of meeting WQ standards in the unnamed tribs., the two ponds directly discharge into, and using expected effluent data from Dr. Walkers report:

Hardness = 500 (can't be > 500 in formula)

Chloride = 195

The acute sulfate limit = 2435 ppm

Dr. Walker in his analysis report said expected effluent quality was 2438 ppm sulfate.

I'm still checking with Eric Nygaard on this and the issue of appropriate WQS for the unnamed tribs. including the appropriate TDS 30 day eff. std. for discharge to the unnamed tribs.

There is also a sulfate std. of 2000 ppm referenced, but it is for livestock water supply. Not sure if it is appropriate for a small trib. like this and it's a 30 day ave. std., so not sure if that is

appropriate for a storm water discharge.

Again, sorry about the error about the formula for sulfate.

Bruce